

CECCHETTI ROAD LOW WATER CROSSING

WORK PLAN FOR CONCRETE CROSSING REPAIR



**County of San Luis Obispo
DEPARTMENT OF PUBLIC WORKS**

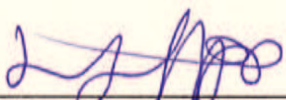
MARCH 20, 2013

CECCHETTI ROAD LOW WATER CROSSING

WORK PLAN

CIVIL ENGINEER'S STATEMENT

This Work Plan has been prepared under the direction of the following registered civil engineer. This registered civil engineer attests to the technical information contained herein and the site constraints upon which recommendations, conclusions, and decisions are based.



Frank Honeycutt, PE



PROJECT BACKGROUND:

Cecchetti Road is a County maintained road that carries an average of 817 vehicles per day serving area residents, agricultural operations and Branch Elementary School northeast of the City of Arroyo Grande. The road crosses Arroyo Grande Creek via a Low Water Crossing (LWC) that consists of an 18 foot wide concrete roadway over a 72" corrugated metal pipe (CMP). The 72" CMP conveys low to moderate flows with higher flows overtopping the concrete roadway.

In Late January 2013 County road crews discovered a hole in the concrete deck of the LWC. Subsequent investigation revealed that the bottom of the 72" CMP has partially rusted out over the years; which allowed soil fines (sand and gravels) from around the pipe and below the roadway to scour out the pipe. This scour process has compromised the structural backfill of the CMP and the concrete roadway making it structurally inadequate for vehicular traffic. The roadway was closed on January 21, 2013 to all traffic. Vehicles are currently diverted to the next lower creek crossing at Huasna Road, resulting in approximately 2.75 miles of out-of-way travel.

WORK CONSTRAINTS:

- The Roads Manager (RM) shall ensure that all work is performed in accordance with this approved work plan.
- The RM shall ensure that the repair work and the compliance requirements are adequately documented with a photo and/or video log.
- The assigned Environmental Resource Specialist (ERS) shall monitor all of the work for compliance with the attached environmental permit summary form and conditions. Report any deviations or violations to the RM.
- ERS must clear site prior to start of work.
- The RM shall stop work at the first indication that a threat to endangered species may exist.
- All work is limited to repairing the existing crossing structure. No betterments to the structure are permitted.
- Absolutely no fines (soil, sand, cement, etc.) shall leave the crossing structure and enter the creek.
- Personnel shall not enter the creek and nothing shall be placed into the creek including gravel bags or sand bags.
- Flow in the culvert shall not be detained or diverted.
- Personnel shall not enter any portion of the excavation that is deeper than 5 feet; (follow OSHA trenching regulations).
- A copy of this work plan and attached documentation shall be on-site whenever repair activity is taking place.

REPAIR STEPS:

The work plan assumes that the work must be completed in two parts: the northwesterly portion followed by the southeasterly portion. This will help to ensure the sidewalls of the structure have adequate support during the repair. The RM may determine that this precaution is unnecessary and the work can be accelerated accordingly.

SITE PREPARATION:

- Complete environmental site review.
- Provide training session for all maintenance personnel.
- Set up additional road closure signage including lighted barricades and caution tape.
- Set up waddles and other sediment and erosion control as shown on Plan.
- Provide a concrete washout area of plastic surrounded by hay bales to be located a minimum of 100 feet from the creek.
- ERS must clear site prior to start of the repair work.
- Saw cut the existing concrete deck 1 foot in from the side-sloped edge on all sides of the low water crossing deck. Do not saw cut into the concrete approaches. This section fully encompasses the sinkhole.

PART 1: Work on the NW (closer to Lopez Drive) portion of the crossing.

- Remove the deck section northwesterly of the culvert to expose the sunken sub grade and top portion of the CMP culvert.
- Maintain the concrete side aprons in place. Provide support if necessary.
- The RM and the ERS shall evaluate the condition of the sinkhole once it is exposed. Take note of any visible links to the “wet zone”. If any are discovered, place cleaned gravel bags into the hole(s) up to 1 foot minimum above the existing creek flow elevation.
- Excavate near the CMP culvert leaving at least 1 foot of undisturbed subgrade adjacent to the culvert. The excavation will also be limited to at least one foot above the current creek flow elevation. Progress from downstream to upstream to monitor subsurface flow.
- Inspect the condition of the metal culvert and the subgrade to verify it will adequately support the slurry backfill.
- Inspect and ensure the floor of the excavation to ensure that it will adequately support the visqueen without tearing.
- Place 10 mil plastic or visqueen on top of the backfill. Inspect and ensure placement of the visqueen will adequately prevent the concrete slurry from percolating through the rock and culvert into the creek.
- Backfill the remaining portion of the excavation with 4-sack concrete slurry up to but not including the level of the concrete deck. Limit the first lift of concrete to three feet maximum. The subsequent lift of concrete may be placed after the lower lift sets up for at least 8 hours.

PART 2: Begin work on the southeasterly portion of the crossing.

- Remove the remaining deck section of the culvert to expose the sunken sub grade and top portion of the CMP culvert.
- Maintain the concrete side aprons in place. Provide support if necessary.
- The RM and the ERS shall evaluate the condition of the sinkhole once it is exposed. Take note of any visible links to the "wet zone". If any are discovered, place cleaned gravel bags into the hole(s) up to 1 foot minimum above the existing creek flow elevation.
- Excavate near the CMP culvert leaving approximately 1 foot of undisturbed subgrade adjacent to the culvert. The excavation will also be limited to at least one foot above the current creek flow elevation.
- Inspect the condition of the metal culvert and the subgrade to verify it will adequately support the slurry backfill.
- Inspect and ensure the floor of the excavation to ensure that it will adequately support the visqueen without tearing.
- Place 10 mil plastic or visqueen on top of the backfill. Inspect and ensure placement of the visqueen will adequately prevent the concrete slurry from percolating through the culvert and into the creek.
- Backfill the remaining portion of the excavation with 4-sack concrete slurry up to but not including the level of the concrete deck. Limit the first lift of concrete to three feet maximum. The subsequent lifts of concrete may be placed after the lower lift sets up for at least 8 hours.

PART 3: Place the new concrete deck on the full length of the crossing.

- Reconstruct the concrete deck using a 6-sack mix. Include temperature reinforcing steel consisting of #4 bars at 24" o.c. each way. Place dowels at least 6 inches into each side of the remaining concrete at 24" o.c.
- Collect four concrete samples for use in compression strength testing. Break (test) the first sample after five days.
- Open to traffic once 2500 psi has been achieved in the concrete test samples.

TRAFFIC CONTROL:

Cecchetti Road is currently closed to through traffic from Lopez Drive to Branch Mill Road. The road will remain closed during the repair work. The road will be opened to traffic when the new concrete crossing has reached sufficient structural strength to support vehicle loading. Lighted class 1 barricades and yellow caution tape shall be kept in place while there is an open excavation.

ENVIRONMENTAL:

Place sediment and erosion control measures in accordance with the attached permit summary form to be used during the repair activities, equipment fueling and while materials are being stockpiled. Sediment and erosion control measures specific to this work shall also include:

- Use a vacuum to collect all of the saw cut cooling water.
- Utilize straw wattles and plastic sheeting on the sloped portion of the crossing as secondary containment for the saw cut cooling water.
- Vacuum sweep the work area following the saw cutting operation to collect excavated soil or spilled soil on the crossing.
- No gravel bags shall be placed within the creek
- Equipment shall be fueled and maintained outside of the creek area.
- Sweep the work site at the end of each day.

SCHEDULE:

Day 0 – Check ten day forecast and material availability.

PART 1: NW Portion

- Day 1 – Saw cut the deck and begin removing concrete on the NW side
- Day 2 – Continue removing concrete and begin excavation
- Day 3 – Complete excavation and place plastic
- Day 4 – Place first lift of concrete slurry
- Day 5 – Place remainder of concrete slurry

PART 2: SE Portion

- Day 6 – Begin removing the remaining concrete deck
- Day 7 – Continue removing concrete and begin excavation
- Day 8 – Complete excavation and place plastic
- Day 9 – Place first lift of concrete slurry
- Day 10 – Place remainder of concrete slurry

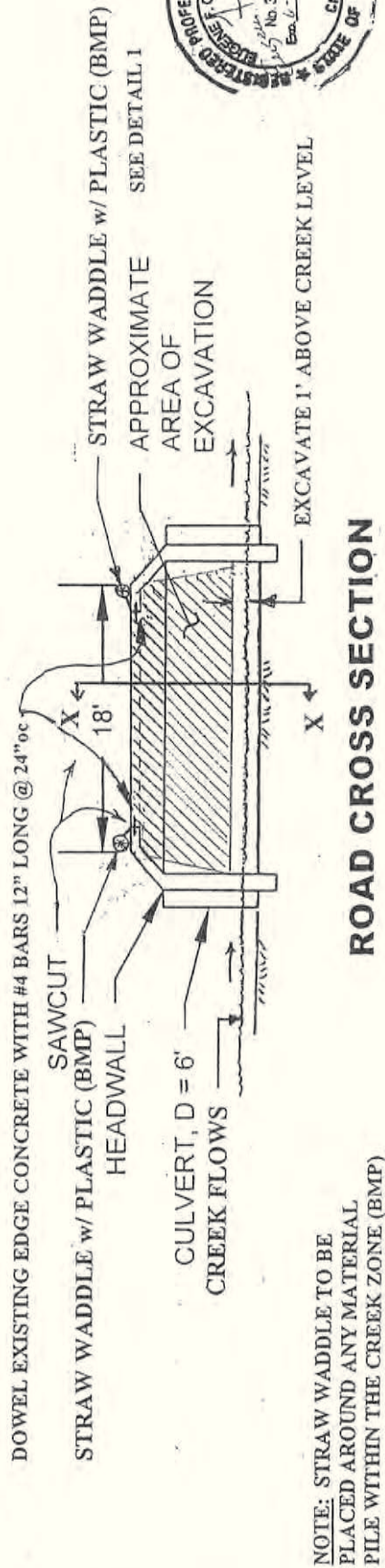
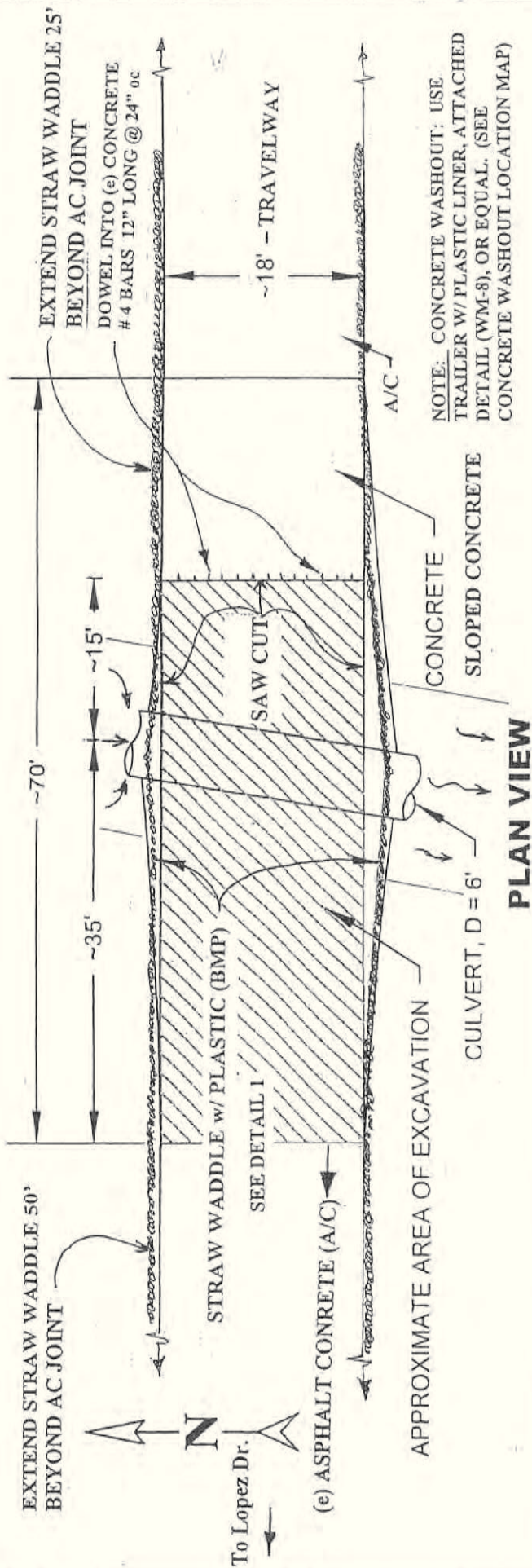
PART 3: New Concrete Deck

- Day 12 – Set reinforcing steel/dowels
- Day 13 – Place concrete for roadway deck
- Day 14-19 Allow concrete to cure
- Day 20 – Remove road closure barricades and open road to traffic

Attachments:

- Vicinity Map
- Cecchetti Road LWC – Repair plan, dated 3/20/2013
- Environmental Regulatory Permitting for Cecchetti Rd LWC, dtd 3/1/2013

File: P:\Cecchetti Crossing\Work Plan for Cecchetti Road Low Water Crossing FAH 3-20-13.doc



**LWC ROAD REPAIRS
CECCHETTI ROAD
ARROYO GRANDE, CA**

COUNTY OF SAN LUIS OBISPO, CALIFORNIA
PUBLIC WORKS DEPARTMENT

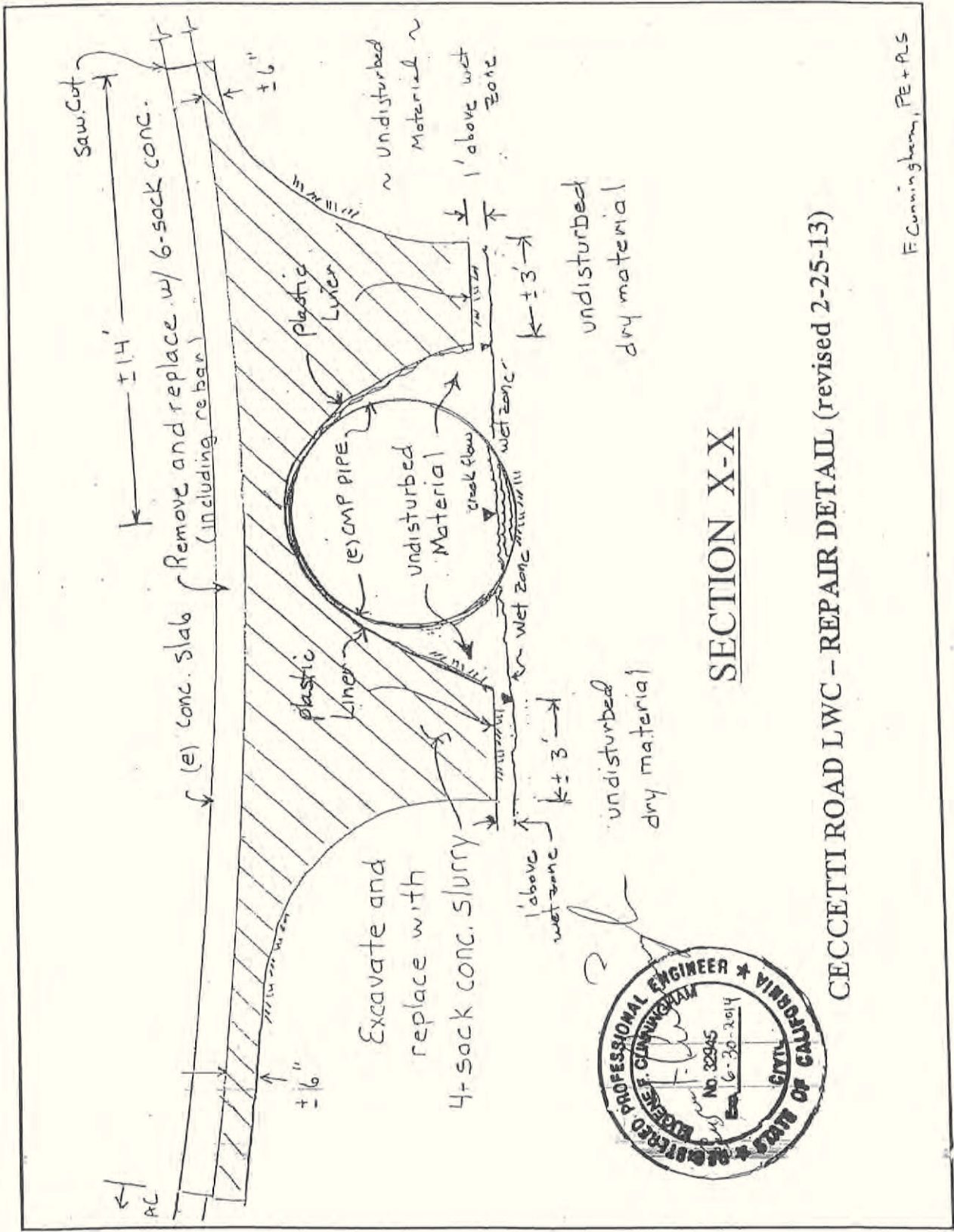
SCALE: NOT TO SCALE

DATE: March 20, 2013

DRAWN BY: LGD

CHECKED BY:

PAGE: 1 of 6



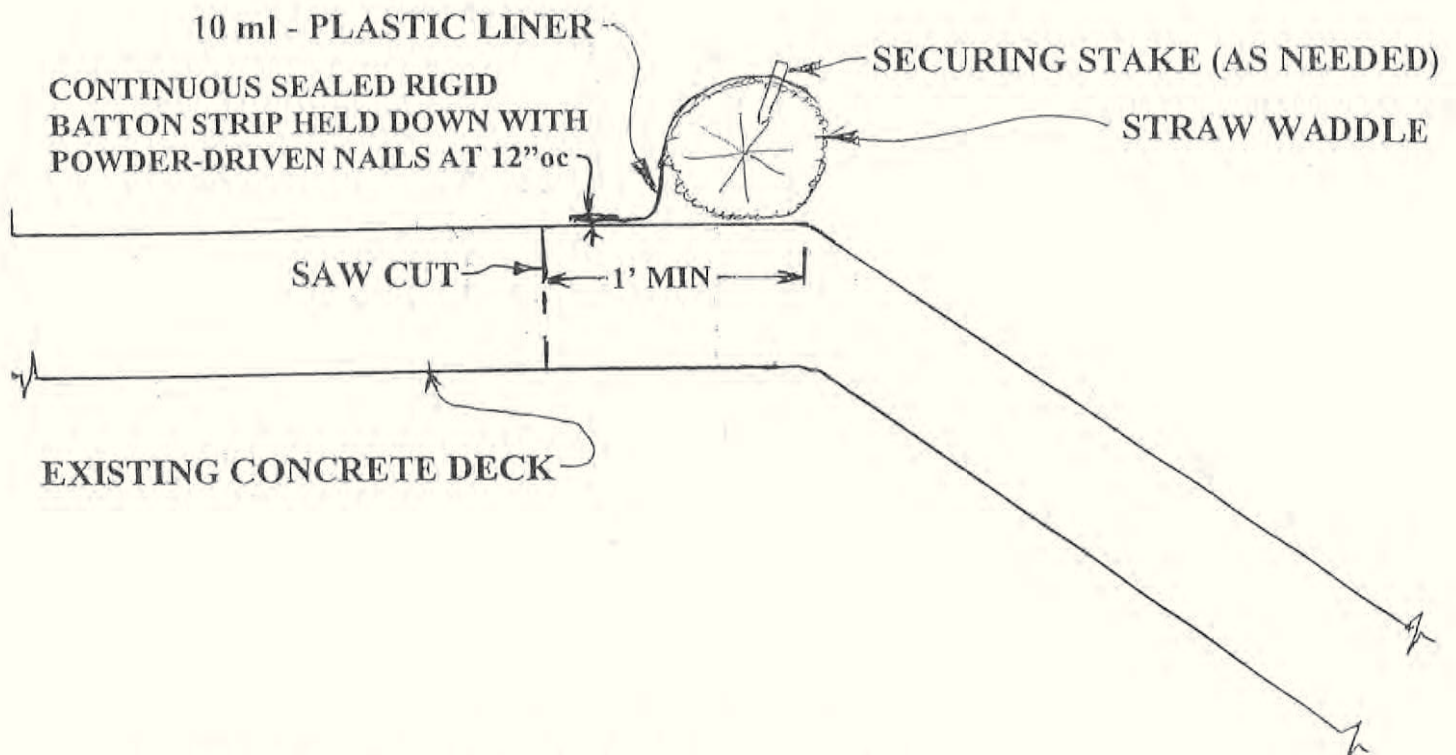
SECTION X-X

CECCETTI ROAD LWC - REPAIR DETAIL (revised 2-25-13)

F. Cunningham, PE + ALS

CECCHETTI ROAD REPAIRS

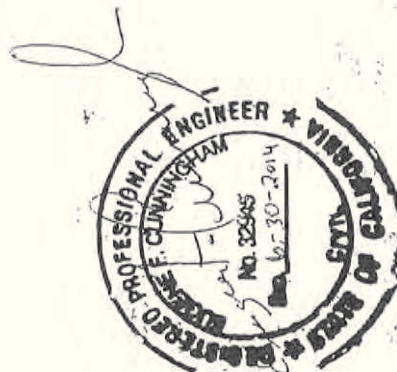
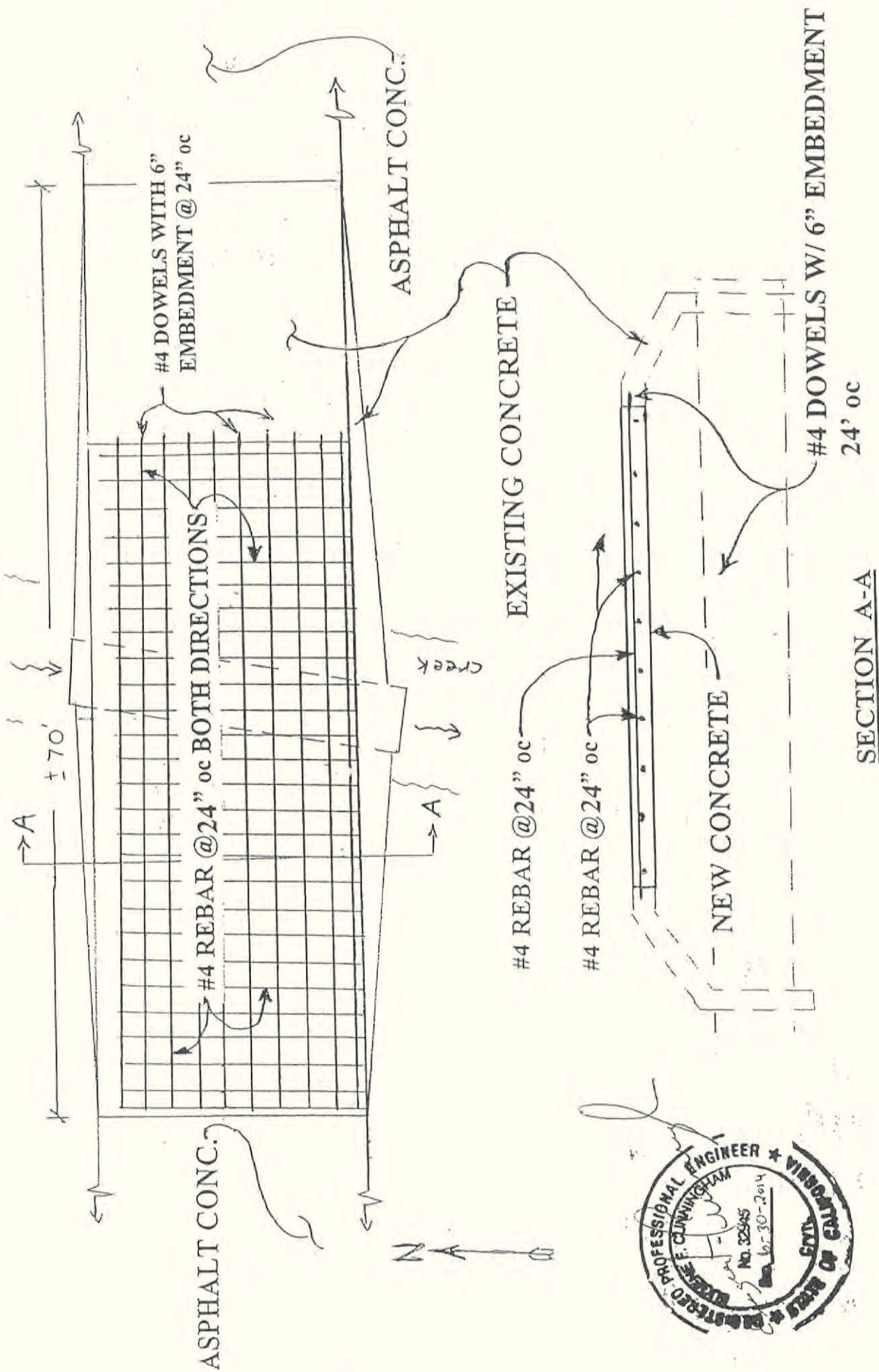
WADDLE AND PLASTIC DETAIL (BMP)



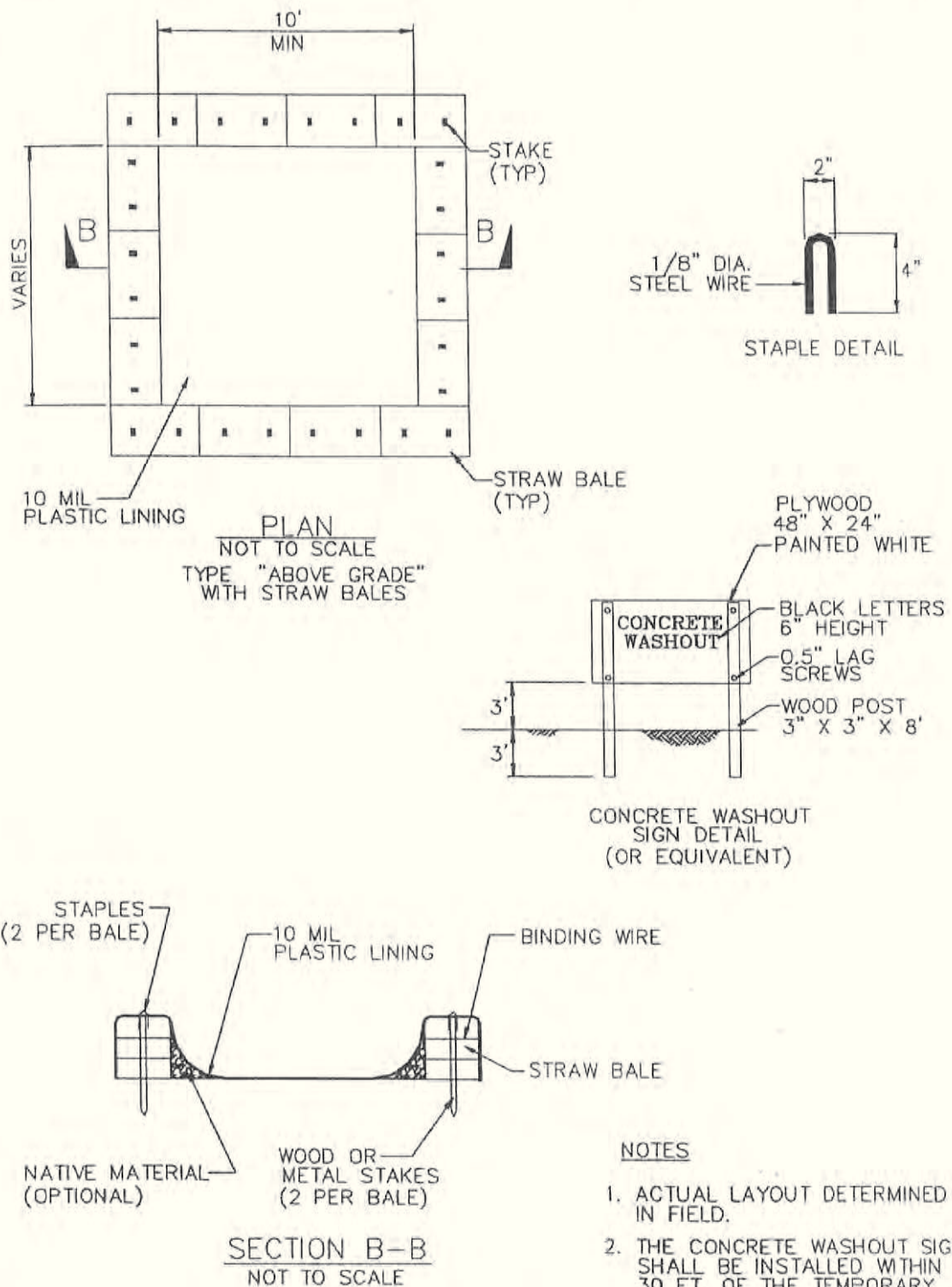
NOTE: ANY EXCESS SAW-CUT COOLING WATER RUNOFF THAT IS NOT IMMEDIATELY VACUUMED UP WILL BE CONTAINED BY THIS PLASTIC AND VACUUMED AS NEED

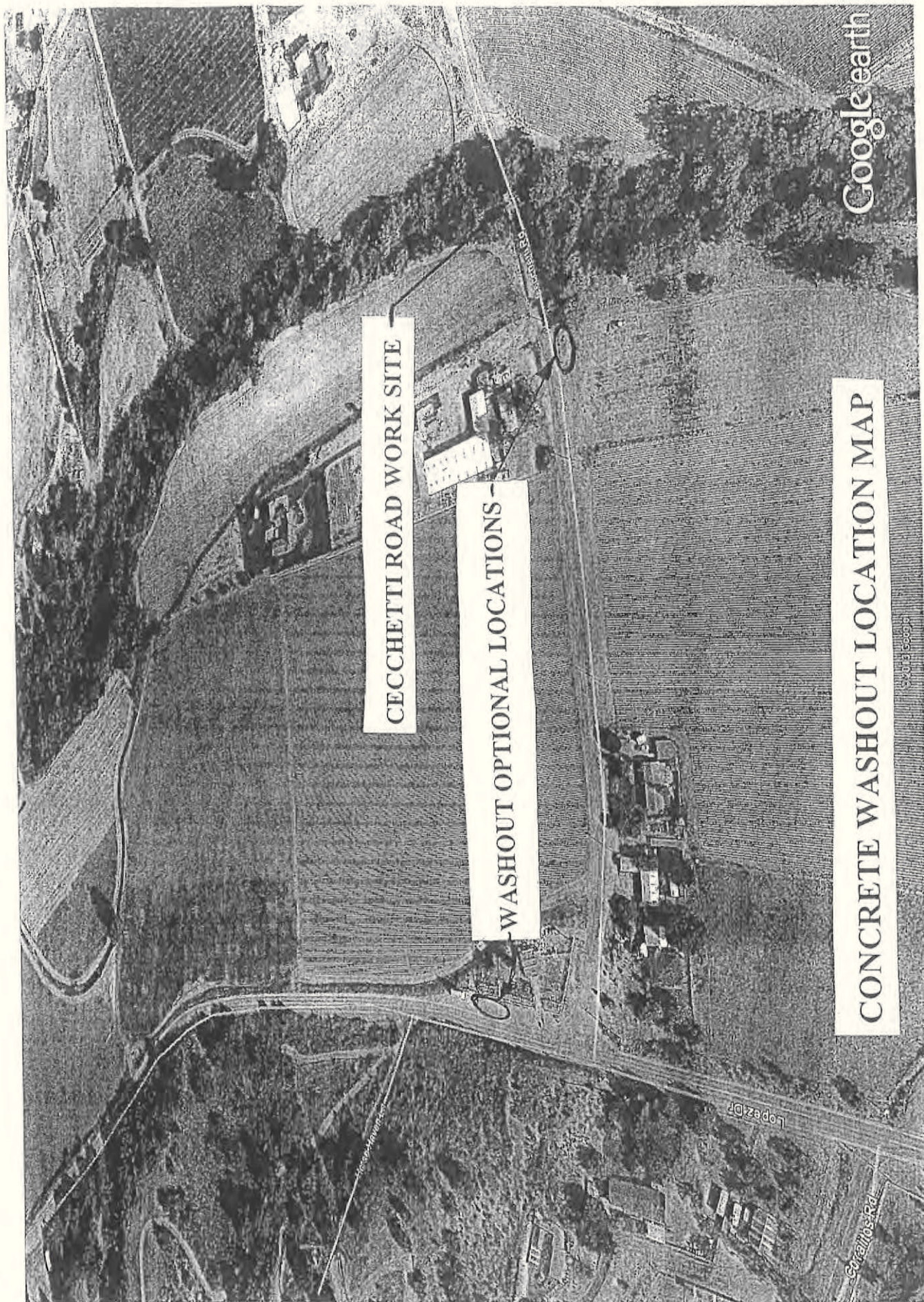
DETAIL 1





CECCHETTI ROAD REPAIR PROJECT - CONCRETE SLAB REBAR DETAILS





800

feet
meters

200



SAN LUIS OBISPO COUNTY DEPARTMENT OF PUBLIC WORKS

Paavo Ogren, Director

County Government Center, Room 207 • San Luis Obispo CA 93408 • (805) 781-5252

Fax (805) 781-1229

email address: pwd@co.slo.ca.us

ENVIRONMENTAL PERMIT SUMMARY FORM

Date: March 1, 2013

To: Frank Cunningham, Project Manager

From: Mark Hutchinson, Environmental Programs Manager

Subject: Environmental Review & Permit Status for Cecchetti Low Water Crossing
Emergency Repair (40092320) (ED12-138)

The environmental review and regulatory permit processes for the above referenced project are complete. The following is a summary of the environmental requirements for the project:

Permit	Status	Attachments?
CEQA Review	Statutorily Exempt	X
NEPA Review	N/A – No federal action	
Coastal Permit	N/A – Not in Coastal Zone	
CZMA	N/A – Not in Coastal Zone	
CDFG 1601	Exempt per F&G Code Section 1610 (Emergency Project)	X
USACOE 404	N/A – Exempt per 404(f)(1)(B)	X
NMFS ESA	N/A – No effect on listed species	
USFWS ESA	N/A – No effect on listed species	
RWQCB 401	N/A – No federal action	
NPDES	Not required, maintenance under 1 acre	

Summary Project Description

Emergency repairs to the Cecchetti Road Low Water Crossing including saw cutting a portion of the existing concrete road slab, removing the slab, repairing crossing with filter fabric, rock backfill, and concrete. See attached.

<i>Measure #</i>	Special Environmental Conditions	Responsibility: Contractor, County or Both
PRE-CONSTRUCTION		
1	Please notify the EPD if the project description changes.	County
2	A County Environmental Resource Specialist or similarly qualified biologist must conduct surveys for biological resources prior to project activities.	County
3	Before any activities begin on a project, a biologist(s) shall conduct a brief training session for all construction personnel on listed species potentially occurring in the project area, including steelhead and California red-legged frog and their habitats. At a minimum, the training shall include a description of the species, the specific measures being implemented to conserve the species for the current project, and the boundaries within which the project may be accomplished.	County
DURING CONSTRUCTION		
4	All work will occur on top of the low water crossing within County ROW.	County
5	The project will not impact the waterway. No equipment will be allowed within the waterway.	County
6	No sediment, backfill material, concrete, or washings thereof, will be allowed to enter the waterway.	County
7	During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.	County
8	All refueling, maintenance, and staging of equipment and vehicles occurs at least 60 feet from riparian habitat or water bodies and in a location where a spill would not drain toward aquatic habitat. If the potential for contamination does occur, such as with an accidental spill, the biologist(s) shall be empowered to direct any measures to contain the contamination, including cessation of other project activities if necessary. To facilitate containment of potential contamination, the County shall ensure a plan is in place for prompt and effective response for any accidental spills prior to the onset of work. All workers shall be informed of the appropriate measures to take should a spill occur.	County
9	To control sedimentation during and after project implementation, the County shall implement appropriate best management practices to minimize adverse effects on riparian and wetland habitats in the vicinity of the project.	County
10	No trees will be removed as a result of project activities.	County

Attachments:

1. Project Description and Plans
2. Copy of Clean Water Act Section 404(f)(1)(B)
3. Notice of Exemption
4. Copy of Fish and Game Code Section 1610

Project Description and Plans

The SLO County Low Water Crossing (LWC) Maintenance Repair Project at Cecchetti Road (RD 2026 at Arroyo Grande Creek) consists of County crews removing and replacing the existing concrete roadway. The concrete roadway slab adjacent to the corrugated metal pipe (CMP) that serves as a low water crossing over Arroyo Grande Creek has been undermined and will not structurally accommodate vehicular loading. This work shall include saw cutting a portion of the existing concrete road slab, removing the slab to expose the sunken subgrade and top portion of the CMP. The side portions of the CMP will be carefully excavated until wet grade is encountered. Clean rock backfill will be placed along the sides of the CMP and filter fabric will be placed on top of the rock backfill to prevent concrete (cement) from percolating thru the rock into the creek waters. The remaining portion of the CMP and slab will be backfilled with a 5.5-sack concrete mix to re-establish the roadway. The new concrete slab will also include temperature steel consisting of #4 bars at 24" o.c. each way.

This roadway LWC is an important component of County Road Number 2026 known as Cecchetti Road and serves (900 vehicles per day) residents and agricultural operations northeast of the City of Arroyo Grande. The existing LWC consists primarily of a concrete roadway with a drainage pipe (72"- CMP) below that conveys flows from Arroyo Grande Creek. The bottom of the pipe has partially rusted out over the years allowing soil fines (sand and gravels) from around the pipe and below the roadway to escape out the pipe discharge. This scour process has compromised the structural backfill of the CMP and the concrete roadway and it is now unsafe for vehicular traffic.

The work shall include saw cutting a portion of the existing concrete road slab, removing the slab to expose the sunken subgrade and top portion of the CMP. The side portions of the CMP will be carefully excavated until wet grade is encountered. Clean rock backfill will be placed along the sides of the CMP and filter fabric will be placed on top of the rock backfill to prevent concrete (cement) from percolating thru the rock into the creek waters. The remaining portion of the CNIP and slab will be backfilled with a 5.5-sack concrete mix to reestablish the roadway. The new concrete slab will also include temperature steel consisting of #4 bars at 24" o.c. each way.

Federal Clean Water Act

Clean Water Act Section 404(f) (1) (B)

Code of Federal Regulations Title 33 Section 1344 (f) (1) (B)

Non-prohibited discharge of dredged or fill material:

(1) Except as provided in paragraph (2) of this subsection, the discharge of dredged or fill material -

(B) for the purpose of maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, and bridge abutments or approaches, and transportation structures;

is not prohibited by or otherwise subject to regulation under this section or section 1311(a) or 1342 of this title (except for effluent standards or prohibitions under section 1317 of this title).

The project consists of the emergency reconstruction of a recently damaged transportation structure; therefore, pursuant to paragraph (1) (B), provisions of the Federal Clean Water Act do not apply.



San Luis Obispo County
Department of Planning and Building
FILED

NOTICE OF EXEMPTION

FEB 27 2013

TO: County Clerk
County of San Luis Obispo

JULIE L. ROOSEWALD COUNTY CLERK
BY J. BLUNDY
DEPUTY CLERK

Cecchetti Road Low Water Crossing Repair; ED12-138 (40092320)

Project Title

On Cecchetti Road approximately 1/2 mile east of Lopez Drive, northeast of the City of Arroyo Grande

Project Location - Specific

San Luis Obispo

Project Location - County

Repair the existing partially failed low water crossing

Description of Nature and Purpose of Project

County of San Luis Obispo

Name of Public Agency Approving Project

San Luis Obispo County Department of Public Works 207 County GOVT Center SLO CA

Name of Person or Agency Carrying Out Project/Beneficiaries of Project

93408

Exempt Status: (Check One)

- | | | |
|-------------------------------------|------------------------|--|
| <input type="checkbox"/> | Ministerial | {Sec. 21080 (b) (1); 15268} |
| <input type="checkbox"/> | Declared Emergency | {Sec. 21080 (b) (3); 15269(a)} |
| <input checked="" type="checkbox"/> | Emergency Project | {Sec. 21080 (b) (2) (4); 15269(b) (c) (d)} |
| <input type="checkbox"/> | Categorical Exemption. | {Sec. 15269 (c) (d)} |

Reasons why project is exempt:

The project is an emergency repair to prevent loss of the roadway and to repair existing roadway damage to maintain essential service to the public health, safety and welfare.

Contact Person, Telephone: Mark Hutchinson, Environmental Programs Manager; (805) 781-5458

If filed by applicant:

1. Attach certified document of exemption finding
2. Has a notice of exemption been filed by the public agency approving the project?
Yes ☐ No ☐

Signature Mark Hutchinson Date 2/27/13

Name: Mark Hutchinson Title: Environmental Programs Manager

California Fish and Game Code Section 1610:

(a) Except as provided in subdivision (b), this chapter does not apply to any of the following:

- (1) Immediate emergency work necessary to protect life or property.
 - (2) Immediate emergency repairs to public service facilities necessary to maintain service as a result of a disaster in an area in which a state of emergency has been proclaimed by the Governor pursuant to Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code.
 - (3) Emergency projects undertaken, carried out, or approved by a state or local governmental agency to maintain, repair, or restore an existing highway, as defined in Section 360 of the Vehicle Code, within the existing right-of-way of the highway, that has been damaged as a result of fire, flood, storm, earthquake, land subsidence, gradual earth movement, or landslide, within one year of the damage. Work needed in the vicinity above and below a highway may be conducted outside of the existing right-of-way if it is needed to stop ongoing or recurring mudslides, landslides, or erosion that pose an immediate threat to the highway, or to restore those roadways damaged by mudslides, landslides, or erosion to their predamage condition and functionality. This paragraph does not exempt from this chapter any project undertaken, carried out, or approved by a state or local governmental agency to expand or widen a highway damaged by fire, flood, storm, earthquake, land subsidence, gradual earth movement, or landslide. The exception provided in this paragraph does not apply to a highway designated as an official state scenic highway pursuant to Section 262 of the Streets and Highways Code.
- (b) The entity performing the emergency work described in subdivision (a) shall notify the department of the work, in writing, within 14 days of beginning the work. Any work described in the emergency notification that does not meet the criteria for the emergency work described in subdivision (a) is a violation of this chapter if the entity did not first notify the department in accordance with Section 1602.

Paragraphs (1) and (3) above are applicable to the unanticipated failure and subsequent closure of Cecchetti Road because the failure was sudden, unexpected and demands immediate action to restore essential public services. Therefore, the project is an "emergency" pursuant to the California Fish and Game Code.